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EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT PAPER NUMBER

1714

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/677,582

Applicant(s)

POWERS, THOMAS

Examiner

Joseph D. Anthony

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) 11-22 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

FINAL REJECTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claim 1, as amended by the amendment of 04/04/2005, is deemed to contain new matter in regards to the following:

1) "a humectant salt **solution**" [emphasis added]. Where in the originally filed specification is there support for this component since the examiner can only find support for a "humectant salt" component but can not find support for a "humectant salt solution" component?

2) "an electrolyte salt **which is different than said humectant in said humectant salt solution**" [emphasis added]. Where in the originally filed specification is there support for said limitation? The examiner can only find support for the phrase "a humectant salt, which may be the same as the electrolyte salt," see claim 1 as originally filed. , and

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3) "**said carrier**, humectant salt, and electrolyte salt present in amounts sufficient to reduce the water activity of the composition to below 0.6" [emphasis added]. Where in the originally filed specification is there support for said limitation? The examiner can only find support for the limitation of wherein the "humectant salt and electrolyte salt are present in amounts sufficient to reduce the water activity of the composition to below 0.6", see page 4, lines 5-6 and page 9, lines 23-25 of the specification as originally filed.

Dependent claim 9 is also deemed to contain new matter in regards to the concentration range of "11-50 wt% humectant salt solution". Where in the originally filed specification is there support for said limitation?

Dependent claim 10 is also deemed to contain new matter in regards to the concentration range of "13-21 wt% humectant salt solution". Where in the originally filed specification is there support for said limitation?

Claims 2-8 are being rejected here because they are dependent on a rejected base claim.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 and 10 are both indefinite in regards to the actual claimed concentration ranges for the carrier component, electrolyte salt

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component and humectant salt solution component. Note claim 10 has the carrier component being silica gel. The problem here is that the electrolyte salt component and the humectant salt solution component can also function as a carrier. As such, the silica gel carrier component could be said to read on the humectant salt component because silica gel is made from sodium silicate (which is a known humectant salt) and sulfuric acid. Furthermore, silica gels are well known in the art to function as humectants.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Cullen et al. U.S. Patent Number 6,209,289.

Cullen et al teaches a composition for absorbing oxygen and releasing carbon dioxide in a high moisture environment including by weight an iron-based component for absorbing oxygen in an amount of between about 15% and 60%, a carbon dioxide releasing component for releasing carbon dioxide in an amount of between about 8% and 50%, an acidifying component for providing acid for activating the carbon dioxide releasing component, and a dry water-attracting component for preventing premature activation of the iron-based component and carbon dioxide releasing component and for attracting water from a high moisture environment to thereby supply water for activating the acidifying component and the iron-based component. A method of absorbing oxygen and releasing carbon dioxide in a container having a product and a high moisture environment and wherein oxygen was flushed out and replaced by at least 26% carbon dioxide and the remaining atmosphere in the container having 17% or less oxygen content after the flushing and into which additional oxygen may have entered including the steps of providing a container, placing a product into the container, flushing the container with a gas containing carbon dioxide, and inserting into the container a packet containing the above described composition, see abstract, and columns 2-5. Applicant's claims are deemed to be anticipated over Examples I-VI and maybe even over Examples VII-IX, all of which are deemed to have a water activity (i.e. equilibrium relative humidity (ERH)) that are no higher

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than applicant's claimed maximum amount even though the patent does not expressively state what the water activity is for the taught oxygen absorbing compositions. Note: although Cullen et al intends for his oxygen absorbing compositions to be used in a high moisture environment, unlike applicant's intention of using his oxygen absorbing compositions in a low moisture environment, such is deemed to be irrelevant since Cullen et al's oxygen absorbing compositions are deemed to meet all the limitations of applicant's compositions claims.

8. Claims 1-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McKedy U.S. Patent Number 5,262,375 or McKedy U.S. Patent Number 6,248,690.

McKedy '375 teaches an oxygen-absorbing composition containing particulate annealed electrolytically reduced iron of between about 100 mesh and 325 mesh in an amount of about up to 99.6% by weight, a salt such as sodium chloride (**reads on applicant's electrolyte salt or humectant salt**) in an amount by weight of about up to 3.5%, and optionally a water-attracting and supplying component such as silica gel (**reads on applicant's claimed carrier component and applicant's claimed humectant salt solution**) of a mesh size of between about 30 mesh and 325 mesh in an amount by weight of up to about 80%. A packet for absorbing oxygen including a stain and grease resistant envelope containing the oxygen-absorbing composition. A grease and stain

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resistant laminate consisting of plies of various plastics and grease and stain resisting paper, see abstract, column 3, lines 5-62 and claims. The disclosed oxygen absorbers are thus very useful in absorbing oxygen from a dry environment. Applicant's claims are deemed to be anticipated over Example 3, that sets forth 3 different formulations that are deemed to have a water activity (i.e. equilibrium relative humidity (ERH)) that are no higher than applicant's claimed maximum amount even though the patent does not expressively state what the water activity is for the taught oxygen absorbing compositions.

McKedy '690 teaches an oxygen-absorbing composition containing particulate annealed electrolytically reduced iron of between about 100 mesh and 325 mesh in an amount of about up to 63% by weight, a salt such as sodium chloride (**reads on applicant's electrolyte salt or humectant salt**) in an amount by weight of about up to 3.5%, and a water-supplying component such as silica gel (**reads on applicant's claimed carrier component and applicant's claimed humectant salt solution**) or activated carbon with liquid water therein of a mesh size of between about 20 mesh and 50 mesh in an amount by weight of up to about 85% in an envelope which will resist the passage of liquid water out of the envelope but will permit flow of oxygen into the envelope at a satisfactory rate. The disclosed oxygen absorbers are thus very useful in absorbing oxygen from a dry environment, see abstract, column 1, lines 50-67, and column 3, line 40 to column 4, lines 67. Applicant's claims are deemed to be anticipated over Examples 3-15 that are deemed to have a water

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activity (i.e. equilibrium relative humidity (ERH)) that are no higher than applicant's claimed maximum amount even though the patent does not expressly state what the water activity is for the taught oxygen absorbing compositions. Note McKedy '690 Example 3 uses silica gel as the water attracting and supplying component (reads on applicant's carrier component), whereas Examples such as 5, 10, 12 and 14 use hydrated activated carbon as the water attracting and supplying component.

In the alternative, the McKedy patents only directly teach (i.e. by way of an example) a three-component composition wherein silica gel is one of the components. It would have been obvious to use another water-attracting and water supplying component other than silica gel such as a zeolite, molecular sieve and salts, see column 3, lines 51-62 of '375. Furthermore, applicant's claims read on both a three component composition (wherein the carrier component also functions as an electrolyte salt component or a humectant salt component) and on a four component composition (wherein the carrier component, electrolyte salt component and humectant salt solution component are all different. It would have been obvious to one having ordinary skill in the art to use the disclosure of either McKedy patent as motivation to use admixtures of one or more of the water-attracting and water supplying component, or electrolyte salt component, see column 3, lines 26-35 of '375, since the courts have constantly declared that to use two or more components together for the same purpose that they are taught to be individually useful is not patentable

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because they are expected to complement each other, *In re Kerhoven*, 205 USPQ 1069 (CCPA 1980).

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKedy U.S. Patent Number 5,262,375 or McKedy U.S. Patent Number 6,248,690.

McKedy '375, and McKedy '690 been described above and differ from applicant's claimed invention in that they do not direct teach (i.e. by way of an example) oxygen absorbing compositions that contains all of applicant's claimed components *within applicant's claimed concentration ranges*. It would have been obvious to one having ordinary skill in the art to use the individual disclosures of each patent as very strong motivation to actually make oxygen absorbing compositions that comprise all of applicant's claimed components within applicant's claimed concentration ranges since the examples already contain all of applicant's claimed components, and the body of the specifications of each patent disclose concentration ranges for the components that directly overlap applicant's claimed concentration ranges.

10. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cullen et al. U.S. Patent Number 6,209,289 in view of McKedy U.S. Patent Number 5,262,375 or McKedy U.S. Patent Number 6,248,690.

Cullen et al and both McKedy patents have been described above.

Cullens et al differs from applicant's claimed invention in the following ways: 1)

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there is no direct disclosure to the use of applicant's electrolytic iron oxygen absorber compound, and 2) there is no direct teaching (i.e. by way of an example) to oxygen absorbing compositions that contains all of applicant's claimed components *within applicant's claimed concentration ranges*. It would have been obvious to one having ordinary skill in the art to use the direct disclosure of either McKedy patent to the use of electrolytic iron as a highly effective powder iron form for absorbing oxygen, as strong motivation to actually use electrolytic iron as the oxygen absorbing iron in Cullen et al's invention.

It also would have been obvious to one having ordinary skill in the art to use the individual disclosures of the Cullen et al patent as very strong motivation to actually make oxygen absorbing compositions that comprise all of applicant's claimed components within applicant's claimed concentration ranges since the examples already contain all of applicant's claimed components, and the body Cullen et al's specification discloses concentration ranges for the components that directly overlap applicant's claimed concentration ranges.

11. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatakeyama et al. U.S. Patent Number 6,133,361 or Waterman PUB. NO. US 2003/0042166 A1.

Hatakeyama et al discloses an oxygen-absorbing composition for a low-humidity environment includes a reduced metal (e.g. electrolytic iron) and an accelerator having at least one of iodide and bromide. The accelerator may have

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at least one of a metallic iodide salt and a metallic bromide salt. The reduced metal and the accelerator may be included in a dry state and the oxygen-absorbing composition may take the form of particles, see abstract and column 5, lines 23-67, and the examples and claims. Optionally adjuvants may be incorporated into the oxygen absorbing compositions such as siliceous powder, pearlite, diatomaceous earth, water-absorbing polymers, aluminium hydroxide, alumina, activated carbon (these components read on applicant's carrier component), see column 6, lines 18-30. The oxygen-absorbing composition may be a resin composition made by kneading an oxygen absorber with a thermoplastic resin.

Waterman discloses pharmaceutical kits that reduce or prevent oxidative degradation of oxygen-sensitive pharmaceutically active ingredients in solid unit dosage forms that are supplied in oxygen permeable containers. Stabilization of the active ingredient which is in a low-humidity environment is accomplished by incorporating an oxygen absorber into a sealed oxygen permeable container, see abstract. The disclosed oxygen-absorbing composition for a low-humidity environment includes a reduced metal (e.g. electrolytic iron) and an accelerator having at least one of iodide and bromide. The accelerator may have at least one of a metallic iodide salt and a metallic bromide salt. The reduced metal and the accelerator may be included in a dry state and the oxygen-absorbing composition may take the form of particles, see document sections [0019], [0020] and [0021]. Optionally adjuvants may be incorporated into the oxygen absorbing

compositions such as *moisture-holding materials* such as activated carbon, silicas, zeolites, molecular sieves, hydrogels, and diatomaceous earth (these components read on applicant's carrier component), see section [0021]. Also note that the disclosure of Hatakeyama et al. U.S. Patent Number 6,133,361 is incorporated by reference, see section [0021].

Hatakeyama et al and Waterman have been described above and they differ from applicant's claimed invention in that there is no direct teaching (i.e. by way of an example) to an oxygen absorbing composition that actually comprises a carrier material such as a water-absorbing/releasing material. It would have been obvious to one having ordinary skill in the art to use the disclosure of either reference as strong motivation to actually incorporate a water absorbing/releasing carrier material into the oxygen absorbing compositions taught by each patent since such an addition is strongly suggested by the disclosure of each reference. Furthermore, applicant's claimed water activity (i.e. equilibrium relative humidity (ERH)) for the oxygen absorbing compositions of claims 1-8 are deemed to be inherently met by the oxygen absorbing compositions disclosed by both patents even though they do not expressly state what the water activity is for their taught oxygen absorbing compositions.

Response to Arguments

12. Applicant's arguments filed 04/04/05 with the amendment have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above. Additional examiner comments are set forth next.

Although applicant asserts that none of the applied references can achieve a reduction in water activity that falls within applicant's claimed range, applicant has set forth no proof that such is the case. The examiner thus maintains his position that the examples and the disclosed concentration ranges of the component as taught in the applied prior-art, are deemed to have a water activity (i.e. equilibrium relative humidity (ERH)) that are no higher than applicant's claimed maximum amount even though the patent does not expressively state what the water activity is for the taught oxygen absorbing compositions.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

7/6/05